NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 5/08/2006

Control	**0086-14-035**
Project	**SFT 86-14-35**
Highway	**LP 20**
County	**WEBB**

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an adendum notification which details the changes and the respective proposal pages which were added and/ or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped “This Proposal Issued for Informational Purposes.”

You are required to acknowledge receipt of this addendum by entering the date, which appears at the top of this letter on the Addendum Acknowledgement Form, contained in your bid proposal.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

04/99

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: SFT 86-14-35 CONTROL: 0086-14-035

COUNTY: WEBB

LETTING: 05/10/2006

REFERENCE NO: 0505

PROPOSAL ADDENDUMS

_ PROPOSAL COVER

_ BID INSERTS (SH. NO.:)

X GENERAL NOTES (SH. NO.: G THRU U.)

_ SPEC LIST (SH. NO.:)

_ SPECIAL PROVISIONS:

ADDED:

DELETED:

_ SPECIAL SPECIFICATIONS:

ADDED:

DELETED:

X OTHER: SEE CHANGES BELOW.

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

PROPOSAL:
****

GENERAL NOTES:

SPEC DATA SHEET G, FIRST PARAGRAPH UNDER ITEM 354 DELETED AND REPLACED WITH THREE NEW PARAGRAPHS UNDER ITEM 354.

SPEC DATA SHEETS H THRU U, TEXT SHIFTED FROM PAGE TO PAGE.

PLANS
*****
PLAN SHEET 8C -
SPEC DATA SHEET G, FIRST PARAGRAPH UNDER ITEM 354 DELETED AND REPLACED WITH THREE NEW PARAGRAPHS UNDER ITEM 354.

PLAN SHEETS 8D, 8E, 8F, 8G, 8H, 8I & 8J -
TEXT SHIFTED FROM PAGE TO PAGE.

County: Webb

Highway: Loop 20

Basis of Estimate
Ultra Thin Bonded Wearing Course (Novachip)

Description	Rate	Basis	Quantity
UTBWC	**95 LB/SY**	**32,461 SY**	**1,542 TONS**
Asphalt PG 76-22 (5.5%)	**5.5% UTBWC** **235 GAL/TON**	**1542 TONS** **85 TONS**	**85 TONS** **19,975 GAL**
Aggregate (Ty C) (94.5%)	**94.5% UTBWC**	**1,542 TONS**	**1,457 TONS**
Membrane	**0.27 GAL/SY** **235 LB/GAL**	**32,461 SY** **8,764 GAL**	**8,764 GAL** **37.3 TONS**

General Requirements and Covenants:

Maintain an accurate vertical and horizontal control throughout the contract.

Apply all pavement markings in accordance with the Texas MUTCD, plans, and as directed/approved by the Engineer.

Conform sign types for which details are not shown in the plans to the “Texas MUTCD”.

Possible presence of underground utilities on the right of way on this project requires attention. Call for location of utilities 48 hours in advance of excavation or drilling.

Verify the approximate location of utilities, either underground or overhead, shown within the right-of-way and/or the project cross-sections before beginning construction operations.

Remove all existing raised pavement markings as the work progresses and dispose from the project site in a manner approved by the Engineer. Consider this work subsidiary to the various bid items and do not pay for it separately.

Remove materials larger than 4 inches in size within the construction limits and not incorporated into the roadway construction from the right of way and dispose of it in a proper manner acceptable to the Engineer. This work will not be paid for directly, but will be subsidiary to the various bid items.

In instances where fixed features require, the cross section slopes may be varied to the extent determined/approved by the Engineer.

County: Webb

Highway: Loop 20

Follow the requirements of the Texas Aggregate Quarry and Pit Safety Act if waste areas or material source areas result from this project.

Maintain the right of way free of trash, construction debris and surplus materials as shown in the plans and/or as determined/approved by the Engineer.

Retain, store or deliver any materials removed and not reused and determined to be salvageable by the Engineer within the project limits at an approved secure location. Deliver undamaged to the salvage/storage yard as directed by the Engineer. Dispose of materials that are not determined to be salvageable by the Engineer. Deface and dispose of signs in such a manner that they will not reappear in public as signs.

Take precaution in preparing holes for posts and/or foundations, so as not to rupture existing drainage structures, electrical conduits, public utilities, etc.

Upon completion of work on each roadway project, thoroughly clean all construction materials, sweep all excess rock, and restore all stockpile delivery sites to natural conditions or satisfactory of the Engineer prior to the final acceptance before removing barricades from the project.

Become familiar with the work areas before bidding. The quantities shown on the plans are approximate and should not be considered as final quantities.

Designate an on-site representative who has full authority to make decisions with respect to the project. Coordinate all project issues with the Texas Department of Transportation (TxDOT) through the designated on-site representative.

Perform the work required according to TxDOT standard specifications for construction and maintenance of highways, streets, and bridges (2004).

Have a copy of standard specification book at all work sites, at all times. Purchase standard specification books from the general services division, publications sales office at (512) 302-0985.

Prior to beginning work, attend a TxDOT-arranged pre-construction meeting. The pre-construction meeting will consider the sequence of work, work locations, traffic control, plans, specifications, unusual conditions, and other pertinent items regarding the work.

Prior to beginning any construction operations, submit a sequence of work that will be followed in order to complete the contract in the allowed time. In the sequence of work, show a beginning date and a duration period in working days for each highway. Submit any changes to this sequence for approval.

Equipment and supplies:

Do not begin work until all equipment has been inspected and found to be in good working condition and deemed safe.

Furnish suitable machinery, equipment, and construction forces as deemed necessary for proper prosecution of the work.

Do not mix materials, store materials or equipment, or repair equipment on top of concrete pavement or bridge decks, unless specifically authorized. Permission may be granted to store materials on surfaces if approved and no damage or discoloration will result to the surface.

References to manufacturer's trade name or catalog numbers are made for the purpose of identification only. Furnish like materials of other manufacturers provided they are of equal or better quality and comply with the specifications for this project and are approved.

Do not park personal vehicles within the right-of-way at any time, including any section closed to public traffic.

All employees will wear department-approved safety hats and safety vests at all times at the work site:

1. Outside vehicles at all outdoor work sites. This includes anyone who occasionally visits work sites either on the highway or within the highway right- of-way.

2. Where danger exists of head injury from impact, falling or flying objects, and electrical shock or burns.

Non-compliance with this safety requirement will result in suspension of work.

Perform all work Monday through Friday. Do not perform any work on Saturdays or Sundays, unless otherwise approved. Perform work such that all equipment/machines are off the road between 6:00 A.M. and 9:00 P.M..

Repair all damage caused by daily operations and restore facilities to service in a timely manner, as directed, at no additional cost to TxDOT.

Clean up all work areas and remove all loose material resulting from everyday operations each day or before the work is suspended for the day. No loose material will remain at the worksite during the day.

Legally dispose of all debris, including all excess paint and waste material.

Leave the project site clean and neat in appearance upon completion and before final acceptance of the project.

Coordinate the sequence of construction and traffic control plan with any adjacent construction projects to ensure the uninterrupted flow of traffic.

Obey all municipal and county government ordinances and regulations.

Procure all municipal and county government permits and licenses necessary to perform the work.

Contact all utility companies prior to beginning any excavation work in the area of existing utilities to prevent any damages or interference. This action, however, will in no way be interpreted as relief of responsibilities under the terms of this contract as set out in the plans and specifications. Repair any damage caused by daily operations and restore facilities to service in a timely manner as directed at no additional cost to TxDOT.

ITEM 2 INSTRUCTION TO BIDDERS:

Direct attention to the first paragraph of Article 2.5 of the Standard Specifications. In view of the complex nature of the work, the need for close coordination with various utilities, traffic control considerations, and other factors influence the prosecution of the work.

ITEM 4 SCOPE OF WORK:

Provide complete installations of highway traffic signal, to include furnishing and installing complete controller cabinets, steel poles with mast arms, signal heads (LED), signal cables, pedestrian signal heads (LED), pedestrian push buttons signs meeting “Texas Accessibility Standards” (TAS) and “Americans with Disabilities Act” (ADA) standards, video imaging vehicle detection systems (VIVDS), ground boxes, conduit runs, electrical service, TAS/ADA compliant wheelchair ramps, street signs, and remove traffic signal.

<u>CSJ: 0086-14-035 (Loop 20 at Ejido Avenue)</u>
Furnish and install a traffic signal controller, controller cabinet and foundation, signal poles, damping devices, electrical service, ground boxes, signal heads (LED), signal

back plates, pedestrian signal heads (LED), pedestrian push buttons, conduit runs, signal cable, video detection, pavement markings, TAS/ADA compliant wheelchair ramps, luminaires, and street signs.

Furnish and install a spread spectrum radio and antenna compatible with the existing closed loop system and antenna cable. Program the radio to have communications from this intersection to the master intersection.

Furnish and install all other items not listed above that are required for a complete traffic signal installation as shown in the plans.

ITEM 5 CONTROL OF THE WORK:

Reference all existing striping and pavement markings in a manner which allow the markings to be re-established. Place extra reference (if needed) to ensure that the markings (lane lines, edge lines, ramp gores, etc.) are in-line with signs on OSB's, TMS arrows, etc.

Submit to the area office, as a minimum, in order to facilitate the required review and approval process of forming details and erection drawings for major structures (in addition to the requirements of Item 5), the following documents: appropriate spacing and size of all proposed members/components; supporting calculations; and copies of the manufacturer's recommended spacing charts and safe working loads for brackets, joists, hangers, etc.

ITEM 7 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC:

Upon completion of all work provided for in the contract for any individual project, the Engineer will make an inspection. If it is found to be satisfactory, the Contractor will be released from further maintenance on that individual project. Such partial acceptance will be made in writing and will in no way void or alter any terms of the contract.

ITEM 8 PROSECUTION AND PROGRESS:

Working days will be computed and charged in accordance with Article 8.3.A.1 Five-Day Workweek.

ITEM 300 ASPHALTS, OILS AND EMULSIONS

The following notes will apply for the material used for Item 351 "Flexible Pavement Structure Repair". This item will not be paid for directly, but will be considered subsidiary to Item 351. Use asphalt binder in the manufacturing of hot mix asphaltic concrete for this project as follows:

The asphalt binder used in the manufacture of Hot mix (TY C) (BASE) shall be PG76-22.

ITEM 340 DENSE-GRADED HOT-MIX ASPHALT (METHOD):

The following notes will apply for the material used for Item 351 “Flexible Pavement Structure Repair”. This item will not be paid for directly, but will be considered subsidiary to Item 351.

Verification of the design will require approximately 10 working days and approval by the Engineer of the location of the sources and preliminarily design sufficiently in advance to avoid delay is required.

Equip the asphalt plant with truck scales as defined in Item 520.3(1) of the standard specifications. Give three mass tickets bearing the date, truck number and gross, net and tare mass to the truck driver by the Contractor's or asphalt plant personnel, and then to the state inspector at the spreading and finishing machine during hot mix operations. Weigh loads of asphaltic concrete on public scales or portable platform scales to ensure the proper mass of the material may be required by the Engineer. No commercial or Contractor's RAP will be allowed in the mixture unless approved by the Engineer.

Use limestone screenings.

Prior to shipping asphalt to the project, furnish the Engineer with the name of the supplier as well as samples of the asphalt the Contractor proposes to use so that the type, grade and rate of application of asphalt may be determined.

In addition to the tack coat materials specified in these standard specifications, MS-2 or MS-1 may be used. Exercise diligence in the application of "Tack Coat" by the use of flagging and rolling procedures to keep from spraying or splattering the traveling public with asphaltic material.

Type C HMAC shall be used for Item 351.

The asphalt binder used in the manufacture of Type C Hot Mix shall be PG 76-22.

ITEM 351 FLEXIBLE PAVEMENT STRUCTURE REPAIR:

Quantities for this item are approximate. Additional areas may be required as, deemed necessary by the Engineer. The repair will be completed after milling the top ¾” of

existing asphaltic pavement for the UTBHMWC Paver Laid Surface Treatment. Cut neat vertical faces around the perimeter of the work area when removing pavement layers. The removed materials are the property of the contractor. The repair of localized sections will be placing asphaltic concrete pavement “Type C” to bring the repair flush with the milled surface.

The section of roadway where the repair is to be made shall be the entire width of the lane and a minimum of 20 feet, unless otherwise directed by the Engineer.

ITEM 354 PLANING AND TEXTURING PAVEMENT:

Stockpile 100% of the salvageable rap material at the following locations:

1806 Margarita Lane (50%)
Rio Bravo, Texas
(approx one way haul distance = 12 miles)

West End of Centeno St. (50%)
El Cenizo, Texas
(approx one way haul distance = 12.5 miles)

The pavement will be milled to the depth as shown in the plans and as directed by the Engineer.

Any vertical or near-vertical longitudinal face exceeding 1-1/4 inches in height in the pavement surface open to traffic at the end of the work period will be sloped in a minimum of 1:1. Transverse faces that are present at the end of the work period will be tapered in a manner acceptable to the Engineer.

Pavement that is not removed by the milling operation adjacent to steep curbs, inlets, manholes or other obstructions will be removed by other methods acceptable to the engineer.

The pavement and curb surface will be swept with a street sweeper, or other sweeping equipment approved by the Engineer, to remove all debris leaving a clean and presentable.

ITEM 416 DRILLED SHAFT FOUNDATIONS:

Disposal of all surplus material required for traffic signal pole foundations will not be paid for directly but will be subsidiary to bid item 416, "drilled shaft foundations.”

Dispose of all surplus excavated material as directed.

Use a Texas cone penetrometer reading of fifteen (15).

Due to the possibility of right of way constraints, utilities, and other conflicts, field verify the actual locations of traffic signal foundations with personnel from the transportation operations section before any drilling operations begin.

The dimensions shown on the plans for the locations of signal pole foundations, conduit and other items may be modified to meet existing conditions, subject to approval.

Clean up and remove from the work area all loose material resulting from daily operations at the end of each day.

Do not place traffic signal poles on their respective foundations prior to 7 days following placement of concrete.

Place the grounding rods for the traffic signal poles at the nearest ground box. The ground rod will be 5/8" x 10'. A continuous bare or green insulated copper wire (No. 6) will be installed from the ground rod in the ground box to the base of the traffic signal.

ITEM 502 BARRICADES, SIGNS AND TRAFFIC HANDLING:

Use opposing lane dividers and vertical panels to channelize traffic when existing pavement marking have been obliterated.

State Standard Sheet(s) "Traffic Control Plan (TCP)"requires that certain signs are to remain in place until the standard pavement markings are placed. Place the standard markings at least 14 days after surface treatment operations are completed.

Refer to the traffic control plan for this project as shown in the plans, as detailed on the "Barricade and Construction Standard" sheets and as provided for in the current "Texas MUTCD".
Shadow vehicles with Truck Mounted Attenuators will be required on moving operations only.

Provide truck-mounted attenuators (TMA) in accordance with the State Standard Sheet(s) for "Traffic Control Plan", "Barricades and Construction", and "Texas MUTCD" when a shadow vehicle is used.

Provide a letter certifying that all TMA's used on this project that were purchased on or after October 1, 1998 have been found to be crashworthy using the criteria outlined in the national cooperative highway research program (NCHRP) report 350 to the Engineer. If the TMA was purchased prior to October 1, 1998, provide a letter certifying

crashworthiness using the criteria outlined in either NCHRP reports 230 or 350 to the Engineer.

Place eight inches of both red and white stripes in an inverted "V" design on the back of all TMA's. Conform all sheeting to Departmental Material Specification D-9-8300, Type C.

Assure that previously used TMA's meet the NCHRP 230 requirements and all new Truck Mounted Attenuators meet NCHRP 350 requirements.

The time frame for the Contractor to provide properly maintained traffic control devices before they are considered to be in non-compliance with this Item, is 48 hours regardless of the days of the week involved after notification is done in writing by the Engineer. If the Contractor doesn't take the necessary steps approved by the Engineer to eliminate the non-compliance conditions within the 48 hours established above, payment for this Item for the month(s) in non-compliance can be withheld as covered in Section 502.4(B).

All Construction must be done at night during off-peak hours except as shown on the plans. Night work shall be done between 6:30 pm to 6:30 am, Monday thru Friday and anytime on weekends. Maintain a minimum of one through lane in each direction during the nighttime hours except as directed. Ensure all equipment, vehicles, workers, etc., associated with these closures are off the roadways and all lanes re-opened at 6:30 am Monday thru Friday.

No weekend closures will be allowed on the weekends which include the following holidays: January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, December 25 and Easter weekend. Unless otherwise approved, no weekend closures will be allowed on the weekends of special events that could be impacted by the construction. Ensure all equipment, vehicles, workers, etc., associated with these closures are off the roadways and all lanes re-opened at least by noon of the Friday before these holidays and special events.

Furnish all traffic control and comply with the current Texas MUTCD, Traffic Control Plan (TCP) and Barricades and Construction Standards (BC), Pavement Marker Standards (PM), and Work Zone Standard (WZ).

The Contractor is responsible for implementing and maintaining the traffic control plan and will be responsible for furnishing all traffic control devises, and flaggers. Conduct construction methods in order to provide the least possible interference to traffic so as to permit the continuous movement of traffic in all allowable directions at all times. Clean up and remove from the work area all loose material resulting from construction operations at the end of each work day. Keep at least one lane open when placing loop detectors across the roadway.

County: Webb

Highway: Loop 20

Replace/relocate all regulatory signs removed due to construction operations with a same sign on fixed or temporary support(s) immediately upon its removal. This work will not be paid for directly but will be subsidiary to the various bid items. Obtain a project Engineer approval before removing any regulatory roadway sign. Relocate a sign, if required by construction, to a location in compliance with the "Texas Manual on Uniform Traffic Control Devices". In no case will a sign be removed without a replaceable sign and support being readily available and a location established. Required flaggers are to be available to direct traffic during sign intermediate down time.

Use plastic drums in accordance with the plans and manufacturer's recommendations as approved by the Engineer.

Maintain the road open to traffic at all times. Provide access to all driveways and side roads, both public and private, at all times.

Mounting of signs on plastic drums may be permitted provided the sign size and material used is in strict accordance with standard sheet BC (7)-03.

For the Proposed Traffic Signal the traffic control plan for this work will be as shown on the “Barricade and Construction Standard” sheets, WZ (BTS-1&2)-03, WZ (TD)-03, and the work zone speed limit worksheets, and as provided for in the latest edition of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

Keep all delineation devices, signs, and markings clean and as directed. This work will not be paid for directly but will be subsidiary to bid item 502, "Barricades, Signs, and Traffic Handling.”

Short term roadway closures are defined as eight (8) hours or less in duration. Long term closures are greater than eight (8) hours or multiple closures of two (2) or more successive days.

Provide plastic construction fencing a minimum of four (4) feet high around open excavations for pedestrian safety.

Schedule the installation of all signals for minimal interference with traffic.

Notify the engineer and the proper city traffic and traffic department officials when major traffic changes are to be made. The notification will be made one week prior to the change.

Have an employee(s), with a local address, on-call during nights and weekends (or any other time that work is not in progress) for maintenance of signs and barricades. This employee(s) will be located within one hour of traveling time to the project site. Notify the engineer in writing of the name, address, and telephone number of this employee(s).

All construction equipment involved in roadway work on or within 30 feet of the roadway will be equipped with an approved, permanently mounted, 360-degree revolving or strobe warning light with amber lens. Use the lights when the equipment is within 30 feet of the roadway. These lights will have a minimum lens diameter of 5 inches and will have a mounting height of not less than 6 feet above the roadway surface and will be visible from all directions. Equip trucks, trailers, autos, etc., with emergency flashers and use the flashers while within the area of work.

Install one high-intensity, yellow, rotating dome light on all equipment such as distributors, spreader boxes, lay-down machines, rollers, backhoes, road graders, loaders, etc. Install the lights high enough to be visible from all directions and use the lights when the equipment is within 30 feet of the roadway. Equip all other equipment such as trucks, trailers, autos, etc., with emergency flashers and use the flashers while within the area of work.

Reflective surfaces on channelizing devices, such as cones, vertical panels, drums, and barricades will be of high specific intensity type flat surface, reflective sheeting and will conform to departmental specification, “flat surface reflective sheeting,” D-9 8300, Type C.

Provide for traffic control at no cost to TxDOT at any time that normal signal operation is interrupted.

ITEM 504 FIELD OFFICE AND LABORATORY:

Furnish the inspector with one cellular phone small enough to carry on a belt holster. Obtain the Engineer’s approval for the proposed cellular phone service plan before putting it into service.

Provide to the Department and their representative a computer and printer at the plant when hot mix asphaltic concrete is being produced. The computer and printer will be located in the lab in which the Department testing is conducted. The computer will be for the sole use of the Department and their representative. The computer must be equipped with an Internet service provider, electronic mail software and Microsoft EXCEL. The operating system and all software must be compatible with the systems and software employed by the Department.

Furnish a Type D structure for the asphalt mix control laboratory for the Engineer’s exclusive use. Ensure the floor has enough strength to support the testing equipment and has an impervious covering.

Ensure the Type D structure has adequate air conditioning and is furnished with a minimum of one desk, three chairs, one file cabinet, a telephone, and one built-in

equipment storage cabinet for the storage of nuclear equipment. The cabinet will be a minimum of 3-ft wide by 2-ft deep by 3-ft high and will have provisions for locking securely. Provide the structure with a 240-volt electrical service entrance. Provide a minimum of four 120-volt circuits with 20-amp breakers and at most two grounded convenience outlets per circuit and provisions for a minimum of two 220-volt ovens with vents to the outside. Provide a minimum of two convenience outlets per wall and a utility sink with an adequate clean potable water supply for testing. Space heaters for heating the structure are unacceptable. Support block portable structures for stability and tie down.

Provide cleaning services to the field office as needed, but at least once a week. Provide sweeping and mopping of floors, cleaning the toilet and lavatory, and emptying wastebaskets and other services as directed.

Provide a chemical toilet adjacent to the field office for the exclusive use of Department personnel.

ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS:

The SW3P for this contract consists curb inlet protection. The Ultra-CurbGuard developed by UltraTech International, Inc. or equal should be used to keep sediment, oil, silt and debris from entering into the stormwater system through the curb inlet.

ITEM 531 SIDEWALKS:

For this project, the thickness of the pre-molded or board joint separating each sidewalk section will be ½" and be at a depth equal to the depth of the sidewalk.

When sidewalks are constructed next to curb or curb and gutter, place sidewalk expansion joints at the same location as the curb and gutter expansion joints.

ITEM 618 CONDUIT:

Install conduit under existing pavement by jacking or boring methods.

If using the trenching method outside of existing pavement, place conduit on a 2-inch sand cushion and then backfill with a minimum of 6 inches of sand fill. Backfill the remainder of the trench with flexible base, soil, or two-sack concrete as directed.

Place conduit in an area not exceeding 2 feet in any direction from a straight line and the depth of the conduit will be 2 feet, except when crossing a roadway, where the depth will not be more than 3 feet or less than 1 foot below the bottom of the base material in the roadway when placed by the jacking or boring method. Any evidence of damage to the roadway during the jacking or boring operation will be sufficient grounds to stop the method being used. Repair any roadway damage, due to daily operations in jacking or boring, at no additional cost to TxDOT.

In the event any conduit shown on these plans or existing conduit proves to be unusable due to location or damage, replace such section of conduit with the size and type indicated on these plans at no additional cost to TxDOT.

Do not use the open trench method for placing conduit under pavement unless approved.

Verify actual conduit lengths, locations and configurations at each intersection and as directed and/or approved.

For all conduit placed by trenching, trenching and backfilling will be according to Item 400, “excavation and backfill for structures,” except for measurement and payment. This will be made subsidiary to the various bid items.

Provide a minimum of 18 inches cover above the conduit.

Install a 3-inch wide, red warning polyethylene tape marked “caution buried electrical line” in all trenched conduit runs. Place the tape 10” above the conduit. Measurement and payment will be subsidiary to bid item 618.

ITEM 620 ELECTRICAL CONDUCTORS:

Provide a sized, self-insulated, solderless terminal to ends of wires to be attached to terminal posts. Attach these terminals to wires with a ratchet type compression crimping tool properly sized to the wire. Place pre-numbered identification tags of plastic or tape around each wire adjacent to wire ends in the controller, signal heads, and signal pole terminal blocks.

Do not use non-certified persons to perform electrical work. See Item 7.15 “Electrical Requirements” for additional details.

Electrical certification may be obtained by contacting the Texas Engineering Extension Service (TEEX) at (979) 845-6563 and asking for information on the TxDOT electrical system course.

ITEM 624 GROUND BOXES:

Remove all abandoned ground boxes and dispose of them in an approved manner. This work will be considered subsidiary to bid Item 624 “Ground Boxes.”

Backfill the hole resulting from the removal of existing ground boxes with material equal in composition and density to the surrounding area, and by replacing the existing surface material, such as asphalt pavement or concrete riprap, with like material to equivalent condition. This work will be considered subsidiary to bid Item 624 “Ground Boxes.”

Ground box locations shown on the plans are approximate. Do not place ground boxes in driveways or wheelchair ramps. Alternate ground box locations will be as directed. Ground box aprons will have a 2% slope.

ITEM 628 ELECTRICAL SERVICES:

All traffic signal electrical service pole(s) for this project will be as shown on the plans.

Consider any and all costs associated with the installation and connection of electrical services to the electrical utility company subsidiary to bid Item 628, “Electrical Services.” This includes conduit, conduit fittings, and electrical conductors.

Ground all electrical service poles in accordance with the latest edition of the National Electrical Code (NEC) and TxDOT's electrical detail standard sheets. Include the cost of such grounding in the unit price for this bid item.

ITEM 644 SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES:

For this project, use the "Texas Universal Triangular Slip Base" sign support as per the applicable Sign Mounting Details State Standards.

Install all signs in accordance with the latest edition of the TMUTCD and TxDOT sign crew field book.

All signs with blue, brown, green, orange, red, and yellow backgrounds will be fabricated with Type C (high specific intensity) reflective sheeting. White background signs will be fabricated with Type C (high specific intensity) reflective sheeting. White legend and borders will be white Type C (high specific intensity) reflective sheeting. Reflectorized, removable legends will not be allowed.

Spread all excess excavation uniformly inside the right of way as directed. Include the price of this work in the various bid items.

Erect all signs according to the locations shown on the plans, or as directed. Stake all sign locations as shown in the plans. Locations will be approved prior to the installation of any sign.

Erect all roadside traffic signs with the sign's edge at a minimum of 12 feet from the edge of the travel lane. In curb and gutter sections, the sign's edge will be a minimum of 2 feet from the face of the curb.

ITEM 666 REFLECTORIZED PAVEMENT MARKINGS:

For TY I markings, the minimum thickness of spray-applied markings, as measured on a flat plate by micrometer or similar device will be 0.090 inches (90 mil) for all stop bars, crosswalks, legends, and symbols. Use the thickness for all other lines as shown in the standard specifications. These thicknesses are required for the full width of the line being placed.

Apply all markings in accordance with the plans, Texas MUTCD and as directed/approved by the Engineer after the surface has cured for two (2) days, been cleaned and prepared according to the specifications and as directed/approved by the Engineer. Apply thermoplastic markings directly over existing painted pavement markings only where applicable.

Apply 0.06 inches (60 mils) of thickness for all other lines (lane, edge, no passing, etc.). These thicknesses are required for the full width and length of the line being placed.

Place the Type II markings a minimum of 14 calendar days in advance of the Type I markings if Type II markings are used as the sealer for the Type I markings.

Establish the alignment and layout for permanent striping and pavement markers. Have layout approved prior to striping operations.

Do not open any roadway to traffic without permanent striping. Temporary striping, if necessary, will be placed only if approved.

Place all pavement markings under this item in accordance with details shown in the plans, TxDOT standards, TMUTCD, or as directed.

Mark the locations of the standard pavement markings, as directed. Pavement markings determined to have been placed incorrectly, such as no-passing zones, gore

areas, turn lanes, etc., will be removed and replaced by approved methods, at no additional cost to TxDOT.

ITEM 672 RAISED PAVEMENT MARKERS:

Mount adhesive dispensing equipment into truck or trailer. Place all adhesive material directly for the heated dispenser to the pavement. Portable or non-heated containers will be allowed for the placement o the adhesive material.

Remove all existing raised pavement markers from the roadway prior to placement of new raised pavement markers.

Use a crew experienced in the work of raised pavement marker replacement and/or installation and in the necessary traffic control.

All raised pavement markers will meet Departmental Materials Specifications DMS 4200, pavement markers (reflectorized) and high volume (HV) classification. TxDOT's general services division maintains a list of qualified suppliers.

Place the standard markings at least 14 days after surface treatment operations are completed and in accordance with TxDOT standards.

Prior to placement of all raised pavement markers on concrete pavement, the surface will be blast-cleaned using an abrasive blasting medium. This work will be done in accordance with Bid Item 678 – Pavement Surface Preparation for markings.

Use bituminous adhesive on bituminous pavements. Do not use epoxy adhesive on Portland cement concrete pavement.

ITEM 677 ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS:

Elimination of existing thermoplastic pavement markings will consist of a mechanical method approved by the Engineer (677.4 (D)) followed by the placement of a surface treatment (677.4 (A)(B)).

Remove existing pavement markings, required to be removed, by such methods that will cause the least possible damage to the pavement surface, as directed.

Clean the pavement surface as required under the applicable specifications or as directed.

ITEM 678 PAVEMENT SURFACE PREPARATION FOR MARKINGS:

Blast-clean all concrete pavement prior to the placement of new pavement markings.

ITEM 680 INSTALLATION OF HIGHWAY TRAFFIC SIGNALS:

Prior to construction, meet with the district transportation operations section to determine salvageable traffic signal equipment. Dispose of all other equipment not deemed salvageable by the engineer or his representative in a manner approved by the engineer.

Unless otherwise shown on the plans, provide complete installations of highway traffic signals that consist of the following principal items for traffic signals and flashing beacons:

1. Furnish and install a TS2 type 2 controller cabinet, steel poles with mast arms, luminaires, signal cables, signal heads, leds, pedestrian signal heads, and pedestrian push button signs that meet the “Americans with Disabilities Act” (ADA) standards and “Texas Accessibility Standards” (TAS), video imaging vehicle detection systems (VIVDS), ground boxes, conduit runs, striping, curb & gutter, and ADA and TAS compliant wheelchair ramps.

2. Furnish and install mast arm assemblies, luminaires, photocells, pole mounted flasher controller assembly, signal heads, incandescent light bulbs, signal cables, conduits, span wires, and pavement markings.

3. Furnish and install all other items not listed above which are needed to provide for a complete traffic signal installation as shown in the plans; the items needed, can include, but are not limited to, the following: signs, ground rods, roadway lights, damping devices, and/or photoelectric cells.

All wiring not covered by the plans and specifications will be in accordance with the NEC and TxDOT’s standard sheets. Arrange for and coordinate with the utility company to provide power service to all signals. Meters, if required by the utility company, will be mounted at the specified height required by the respective utility company. Consider the cost of this work under bid Item 628, “Electrical Services.”

Provide, at no additional cost to TxDOT, any adjustment, modifications or changes to the traffic signal heads, ground boxes, cable and other appurtenances associated with all existing traffic signal installations, as approved, that may be necessary for the safe

handling of traffic in the work zone during construction at permanent signalized locations.

All conductors are to be continuous without splices from terminal point to terminal point, or as otherwise approved. No aluminum conductors will be permitted. Traffic signal cable will be rated for 600-volt operation.

All new conduits terminating in ground boxes, pole foundations, or controller foundations will be sealed with a sealant to be made of a polyurethane or equivalent material of a composition that will cure in the presence of moisture. Sealant will be suitable for use in sealing ends of PVC pipe with electrical conductor running through the pipe. The sealant will encapsulate and protect electrical conductors and seal ends of PVC pipe from moisture and dirt. The conduit will be sealed a minimum of 3 inches.

All existing equipment to be salvaged will be determined prior to construction by the transportation operations section. All other equipment will be disposed of in an approved manner approved.

The signal installation will be wired to operate in accordance with the wiring diagram shown in the plans. The contractor will ensure that the timing and phasing are the same as shown in the plans. All timing and phasing will be approved and/or provided by the transportation operations engineer prior to downloading to the controller.

Provide for full installation of controllers, including foundations (refer to TxDOT Laredo District Controller Foundation Detail), wiring and making all intersections operational.

On the terminal block, use the left side for the home runs and the right side for the signal heads. This pattern will be used in all signal installations.

Ground and bond in accordance with the latest edition of the NEC. The resistance from the grounded point of any equipment to the nearest ground rod will be less than one (1) ohm.

Install a continuous bare or green insulated copper wire No. 6 (equipment ground) through the electrical system. Connect the equipment ground to all metal conduit, metal pedestrian push buttons, signal poles, controller housing, service pole ground, ground rods, and all other metal enclosures and raceway.

ITEM 682 VEHICLE AND PEDESTRIAN SIGNAL HEADS:

All signal heads will meet the applicable design requirements of the TMUTCD and will be approved before being installed. Signal heads will be assembled and mounted as shown on the plans and/or approved.

County: Webb

Highway: Loop 20
Signal heads will be located at a maximum height of 19 feet above the roadway surface. Span wire height will be such to provide proper 19 feet section head clearance.

Coordinate with the utility company to raise the existing power lines if there is less than 10 feet of clearance from the traffic signal span wire.

All new signal heads will be covered with burlap from the time of installation until the signal is placed in operation. Provide signal heads made of polycarbonate material and yellow in color. All signal heads will have detachable visors unless otherwise shown in the plans. Position all vehicle signal section heads, and pedestrian signal heads to provide the best view for motorists and pedestrians.

When installing a retrofit replacement led traffic signal or pedestrian signal lamp unit into existing signal housing, only remove the existing lens, reflector, and incandescent lamp.

ITEM 684 TRAFFIC SIGNAL CABLES:

Provide a minimum length of 5 feet for each cable run in each rain loop for span wire traffic signal installations including flashing beacons.

For each traffic signal installation where signal cable is required, provide a minimum length of 2 feet for each cable run left in each ground box and a minimum of 5 feet for each conductor terminating in the controller.

Label all traffic signal cables, vehicle detector cables, pedestrian signal cables terminating in the controller with marker ties and permanent markers.

ITEM 686 TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL):

Provide for a complete installation of traffic signal poles. Locate traffic signal poles as shown on the plans unless otherwise directed to secure a more desirable location or to avoid conflicts with utilities. Stake the traffic signal pole locations for verification and approval by the Laredo district transportation operations section.

Traffic signal poles will be placed at a 10 feet desirable minimum distance from the roadway curb or edge of pavement or as approved.

ITEM 3001 ULTRA THIN BONDED WEARING COURSE (Novachip):

In lieu of a pre-bid conference the following information is being provided to all potential bidders: Novachip is a French process for an ultra thin bonded wearing course. The

wearing course consists of a layer of open-graded hot mix mixture placed over a heavy, polymer-modified asphalt tack coat. Novachip is now available from:

Materials Co.
6746 Up River Road
Corpus Christi, Texas 78409
(361) 289-6147

Any further questions can be addressed to the Laredo Area Engineer at (956) 712-7700.

The contractor is advised to take particular care at the beginning and end of placement operations to ensure acceptable joints. These joints will include intersecting roadways. If the joint is unacceptable, the Contractor will remove it immediately and make corrections to ensure a smooth joint.

Place the mixture when the roadway surface temperature is 70 degrees F. or higher unless approved. Measure the roadway surface temperature with a handheld infrared thermometer. Place mixtures only when the general weather conditions and moisture conditions of the roadway surface are suitable in the opinion of the Engineer.

Monitor the temperature of the material in the truck before shipping to ensure that it does not exceed 350 degrees F. to prevent burning the asphalt binder.

The coarse aggregate may be sampled during delivery to the plant, from the stockpile, from the cold bins, or from the hot bins as directed by the Engineer.

The use of a single drum vibratory roller will not be allowed.

For the Ultra Thin Bonded Wearing Course mixture, the asphalt binder will be PG 76-22.

The longitudinal joints will be at the lane lines or as directed by the Engineer.

Belly dump type vehicles will not be allowed.

The coarse aggregate for the surface of the travel lanes will be a minimum SAC rating of class “A” aggregate as published in the Department’s Aggregate Quality Monitoring Program.

ITEM 6266 VIDEO IMAGING VEHICLE DETECTION SYSTEM:

Furnish and install the video detectors, processor, and set up the video detection system in accordance with the special specification and in coordination with the engineer or his designated representative.

Place a 5-foot camera support plumb; this item and its installation will be considered subsidiary to bid item 6266.

Program and input the detection zones as shown on the plans. Adjust the focus and zoom the camera to achieve the best picture quality.